in MI than in UA patients (11.2% versus 7.1%%), 12-year cumulative mortality was nearly identical (49.2% MI versus 49.8% UA) in the two groups. Average post-ACS life expectancy was 15.604 years (15.460 UA and 15.649 MI).
CONCLUSIONS: Despite significant differences in acute phase mortality, UA and MI patients have similar life expectancies.

INDIRECT COSTS

TPIC1

INDIRECT COSTS OF MIGRAINEURS: THREE DIFFERENT APPROACHES TO VALUING LOST WORKPLACE PRODUCTIVITY

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OBJECTIVE: To evaluate application of variables from an observational study data set to calculate and compare workplace absenteeism and productivity costs using human capital approach (HCA) and friction cost approach (FCA).
METHODS: This was a supplemental analysis to a completed prospective, 6-month observational migraine outcomes study within a managed care organization (MCO). Data collection included pharmacy claims, patient occupation, and patient self-reported workplace absenteeism, and productivity at baseline, 3 months and 6 months post-sumatriptan treatment. Patients were included in this supplemental analysis if they completed all three self-reported surveys and used sumatriptan according to the MCO prior authorization program. The HCA was calculated as: [(number days missed due to migraine) + (days worked with migraine symptoms)(100% − % effectiveness while working with migraine symptoms)/100%] × (daily wage). The FCA was calculated as (average number of migraines per month)(average number of lost work days due to migraine)(work hours/day)(dollars of production/employee).
RESULTS: There were 160 patients who met the inclusion criteria for this analysis. The total indirect costs using the HCA and FCA methodologies were $97,024 and $124,260, respectively.
CONCLUSION: The methodology assumptions and estimates employed to value lost productivity in this migraine population significantly impact the results obtained. Prospective data collection may be required to minimize assumptions and accurately capture variables needed to calculate and understand each indirect cost method. Further evaluation of the post hoc analysis of observational data sets to evaluate productivity costs is warranted.

TPIC2

IMPACT OF ATTENTION DEFICIT AND HYPERACTIVITY DISORDER (ADHD): A SURVEY OF PRIMARY CAREGIVERS

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ADHD is believed to be one of the most prevalent psychiatric disorders of childhood; however, the cost of ADHD is not well understood.
OBJECTIVE: To examine the impact of ADHD on indirect costs and resource utilization associated with scheduled and unscheduled visits to healthcare professionals.
METHODS: In 1997, 150 primary caregivers for ADHD children completed a telephone survey. Scheduled and emergency visits to providers were collected for the past 12 months. Indirect costs associated with primary caregiver work absenteeism or reduced productivity due to ADHD were also collected.
RESULTS: The mean number of ADHD children per caregiver was 1.3 (range 1–4); 60% were in sixth grade or lower. Mean number of visits over 12 months to pediatricians, psychiatrists, psychologists, and counselors for ADHD was 2.0, 3.8, 3.0, 6.8, respectively. In the past 3 months, 17% of the visits were emergency unscheduled visits. Parents accompanied their child on 92% of visits, overall. Sixty-three percent of caregivers reported some change in their work status as a result of their child's ADHD. Of these caregivers, 15% changed job type, 47% reduced hours worked per week, and 11% stopped working completely. In the past 4 weeks, caregivers lost an average of 0.8 days from their primary responsibility and were 25% less productive on an average of 2.4 days due to their child's ADHD. This would result in 39 days of reduced caregiver productivity per year.
CONCLUSIONS: ADHD in children results in substantial impact on parents due to changes in work status, absenteeism, and productivity loss. Management of ADHD results in routine scheduled physician visits. Effective management of ADHD may minimize these costs to employers and the healthcare system.

TPIC3

THE PRODUCTIVITY COSTS OF ALLERGIC RHINITIS

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Productivity losses associated with allergic rhinitis generally are not a major concern of employers. However, there are a number of reasons why the productivity costs associated with allergic rhinitis may be substantial.
OBJECTIVE: In this paper, we estimated absenteeism costs and reduced productivity associated with allergic rhinitis.
METHODS: The National Health Interview Survey (NHIS) was used to obtain information on days lost from work and lost productivity, due to allergic rhinitis. Wage estimates for occupational categories, obtained from the Bureau of Labor Statistics (BLS), were used to calculate the economic costs.

RESULTS: Productivity losses associated with a primary diagnosis of allergic rhinitis in the 1995 NHIS were estimated to be $601 million. These costs increased to $733 million when secondary diagnoses of allergic rhinitis were also considered. When additional survey information on the use of sedating over-the-counter allergy medications, as well as workers' self-assessments of their reduction in at-work productivity due to allergic rhinitis were considered, the productivity cost estimates increased dramatically. At-work productivity losses were estimated to range from $2.4 to $4.6 billion using different estimates of on-the-job productivity reductions available from the literature. It should be noted that the most significant productivity losses did not occur through absence related to allergies but, rather, through reduced at-work productivity associated with the use of sedating over-the-counter antihistamines.
CONCLUSIONS: Despite the inevitable imprecision in any productivity loss estimate it is important to note that even our lowest estimate is several times higher than previous estimates of the indirect medical costs associated with treating allergic rhinitis.

TPIC4

QUANTIFICATION OF INDIRECT BENEFITS FROM MORBIDITY AND MORTALITY REDUCTION: APPLICATION TO PHARMACY SERVICES PROGRAM EVALUATION

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Cost-benefit analysis has been applied in health and pharmacy related studies for years. In most cost-benefit analysis used to evaluate health services programs, the net economic benefits are limited to the direct benefits such as reduction in costs of medication, hospitalization, etc. Not many of them addressed the indirect benefits from morbidity/mortality reduction.
OBJECTIVE: The purpose of this study was to estimate the indirect benefits from morbidity and mortality reduction.
METHODS: Our approach to measuring the mortality effects of disease was to apply Weisbrod's economic theory that estimated costs as the product of number of deaths and expected value of an individual's future earnings taking into account age and sex. This method considers life expectancy for different age and sex groups, changing patterns of earnings at successive ages, varying labor force participation rates, imputed value for housewives' services, and the appropriate discount rate to convert a stream of costs or benefits into its present worth. The losses from morbidity were defined as the temporary losses of a producer due to poor health. The morbidity losses for any disease could be determined if we know the age and sex incidence of the disease, the average duration of illness it causes, and the average earnings of target population.
RESULTS AND CONCLUSIONS: We applied this methodology to estimate the indirect benefits of a pharmaceutical care intervention program to Maryland Medicaid patients. The results show the estimated monetary benefits of the intervention from the reduction in mortality was $901,980.20, from morbidity was $3840.00 for the first year and $29,651.40 for the next 10 years.

TPIC5

TELEPHONY AS A COST-EFFICIENT METHOD FOR ASSESSING HEALTHCARE UTILIZATION (HCU) AND PRODUCTIVITY LOSS (PL) IN AN EMPLOYED POPULATION

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A cost-efficient data collection method, with high response rates over repeated administrations, is desirable for collecting longitudinal self-reported data.
OBJECTIVES: The purpose of this study was to determine the response rate to telephonic collection of data in an ongoing study to assess HCU and PL associated with influenza in an employed population.
METHODS: An employer site conducting an annual influenza vaccination program was selected for the ongoing 5-month study. Subjects were recruited on-site and self-administered baseline paper-based health outcomes surveys. Subjects provided preferred times and telephone numbers where they could be reached and were encouraged to record HCU and PL due to illness in diaries provided. Self-reported HCU and PL during the preceding month were collected during the monthly telephone follow-up. Self-reported vaccination status at baseline and telephone follow-up were contrasted to estimate reliability. A maximum of three call attempts and branched logic were used to ensure cost-efficient call completion.
RESULTS: A total of 1489 subjects were recruited and completed the baseline surveys. A total of 1443 subjects were contacted, of which 1101 completed the month 1 surveys for an effective response rate of 76%. On average, two call attempts were required for initial contact, with a mean telephone survey time of 1.5 minutes for healthy subjects and 2.5 minutes for subjects reporting an illness. Of 1101 subjects, 1080 subjects indicated identical vaccination status at baseline and telephone follow-up representing 98% concordance.
CONCLUSIONS: Telephony may reliably offer higher response rates at a comparable cost to mailed surveys to gather self-reported data such as HCU and PL.